WO 2005/088361 PCT/IB2005/050683

8

CLAIMS:

5

25

1. A method for the manufacture of a birefringent layer with tilted optical axis, comprising:

- providing a liquid crystal mixture comprising liquid crystal molecules and a volatile surfactant,

- aligning said liquid crystal mixture, and
- evaporate at least part of said volatile compound from the mixture to alter the tilt of the optical axis of said liquid crystal mixture.
- 2. A method according to claim 1, further comprising providing a substrate with an alignment layer and aligning said liquid crystal mixture on said alignment layer.
  - 3. A method according to claim 1, wherein said aligning gives an alignment with a tilt of 0 to 10° of said liquid crystal molecules.
- 4. A method according to claim 1, wherein said liquid crystal mixture comprises a polymerisable compound and wherein said method further comprises polymerizing said polymerisable compound.
- 5. A method according to claim 4, wherein said polymerisable compound is said liquid crystal molecules.
  - A method according to claim 5, wherein said polymerisable liquid crystal molecules are selected from calamitic liquid crystalline molecules comprising one or more polymerizable groups selected from acrylate, methacrylate, vinylether, oxetane, epoxy, thiolene and any combinations thereof.
  - 7. A method according to claim 4, wherein said polymerisable compound is photo-polymerisable.

WO 2005/088361 PCT/IB2005/050683

9

- 8. A method according to claim 1, wherein said surfactant comprises a perfluoronated group.
- 9. A method according to claim 8, wherein said surfactant is 2-n-ethylperfluorooctanesulfonamido)-ethylacrylate.
  - 10. A method according to claim 1, wherein said volatile surfactant is evaporated by heating said liquid crystal mixture.
- 10 11. A method according to claim 10, wherein said volatile surfactant is evaporated at a temperature ranging from 40-100°C.
  - 12. A method according to claim 1, wherein said volatile surfactant is evaporated by decreasing the pressure of the atmosphere surrounding said liquid crystal mixture.
  - 13. A method for manufacturing a liquid crystal display, comprising the step of incorporating in said liquid crystal display a birefringent layer obtainable by the method according to any of the preceding Claims.
- A liquid crystal display comprising a birefringent layer obtainable by the method according to any one of Claims 1-12.

15

15. A birefringent layer obtainable by the method according to any one of Claims 1-12.